

# Overview of Habitat Concepts



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# Planning Process

- Assemble Existing Data
- Identify Data Gaps
- Collect Additional Data
  - Vegetation Surveys
  - Sediment Analysis
- Refine Goals and Objectives
- Identify Opportunities and Constraints
- Develop Restoration Alternatives
  - Preliminary concepts (focus on what is crucial to decisions)
  - Input (stakeholders, SAC, agencies, client team, etc.)
  - Refinement process
  - Alternatives presented.
- Assess Feasibility
- Develop Conceptual Restoration Plan

# Alternatives Options

- Historical Conditions
- Listed or focus species of wildlife
- Water supply/hydrologic connections
- Cost/feasibility
- Habitat types

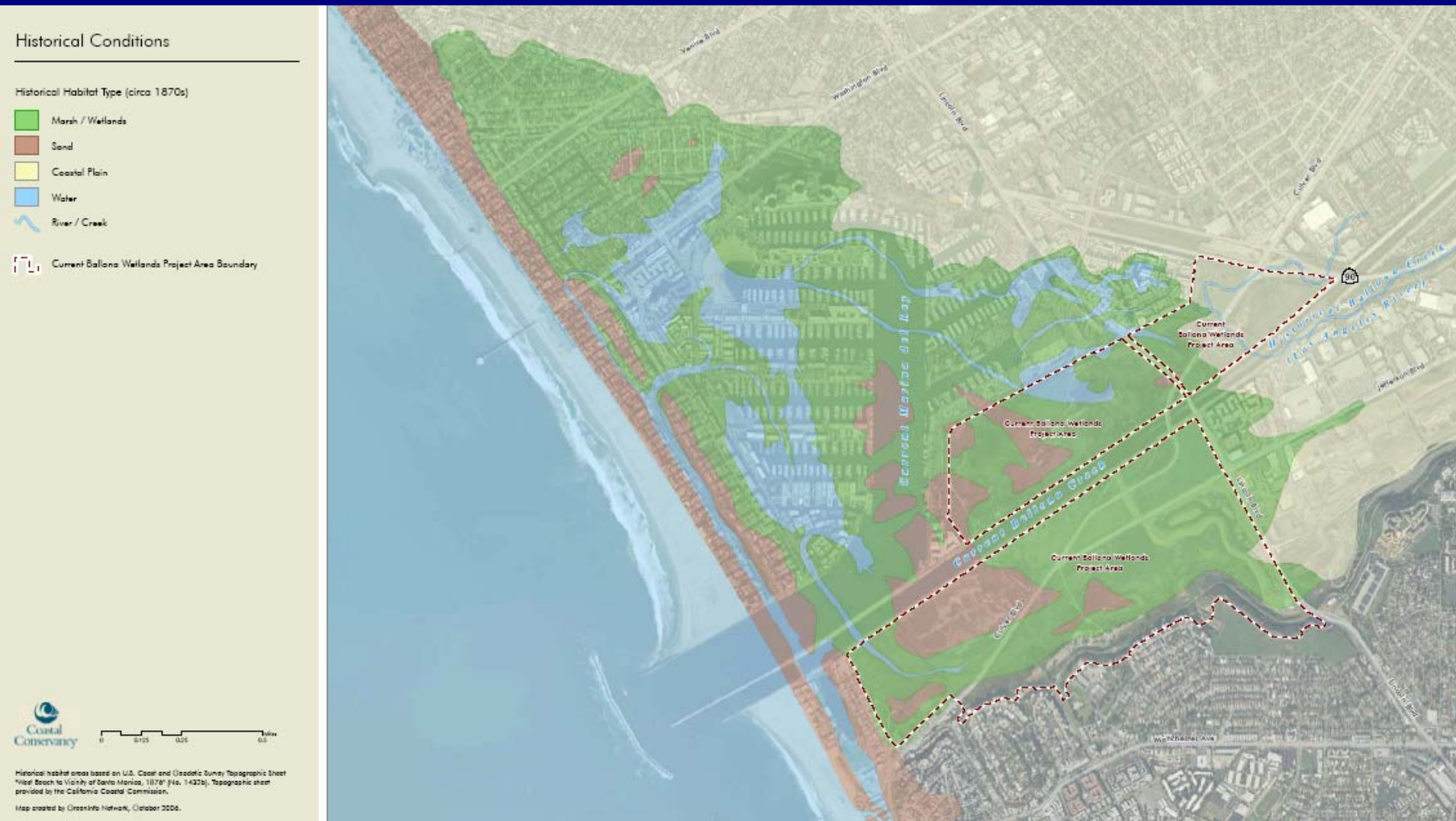
# Specific Project Elements

- Roads/Infrastructure
- Gas Co. facilities
- Distribution of habitat sub-elements
- Hydrology/water supply
- Flood Protection
- Levees along Ballona Ck
- Disposal of excavated material
- Water Quality Issues
- Vector issues
- The Freshwater Marsh
- Little League Fields
- Project Phasing
- Maintenance/monitoring

# Habitat Concept Development

- Project Goals and Objectives
- Existing Conditions
- Historical Conditions
- Opportunities and constraints
- Provide “bookends” on the range of possibilities consistent with above issues

# Ballona Historical Habitats



# Topography



# Existing Habitat

## Existing Habitat

### Habitat Unit by Type

- Tidal Marsh/Wetlands
- Non-Tidal Salt Marsh/Brackish Marsh
- Freshwater Marsh
- Palustrine Wetlands on Fill
- Eucalyptus Grove
- Non-Native Herbaceous
- Non-Native Woody
- Coastal Scrub
- Riparian Scrub and Woodland
- Mixed Freshwater Marsh and Non-Native Herbaceous



# Ecosystem Restoration: Habitat

Opportunities	Constraints
Preserve, restore, enhance, and create multiple habitats	Size of the site is limited
Restore and create fully tidal wetland habitat	Habitats are fragmented
Preserve and enhance seasonal ponding areas	Existing habitats on site could be displaced by future enhancement
Create regional habitat linkages and corridors	Site has been filled
Incorporate adjacent upland habitats and transitional habitats	
Restore diverse habitats based upon gradients of elevation, hydroperiod and salinity	

# Habitat Concept 1

## Habitat Concept 1

### Habitat Concept Type

-  Dune Habitat
-  Enhance Existing Habitat
-  Freshwater Marsh and Riparian Habitat
-  Muted Tidal Wetland
-  Seasonal Wetland
-  Tidal Wetland
-  Treatment Wetland
-  Tidal Connection



0 5125 Miles

Habitat concepts created by Philip Williams and Associates (PWA) and SDGW, October 2008.

Map created by GreenInfo Network and SDGW, November 2008.

# Habitat Concept 2

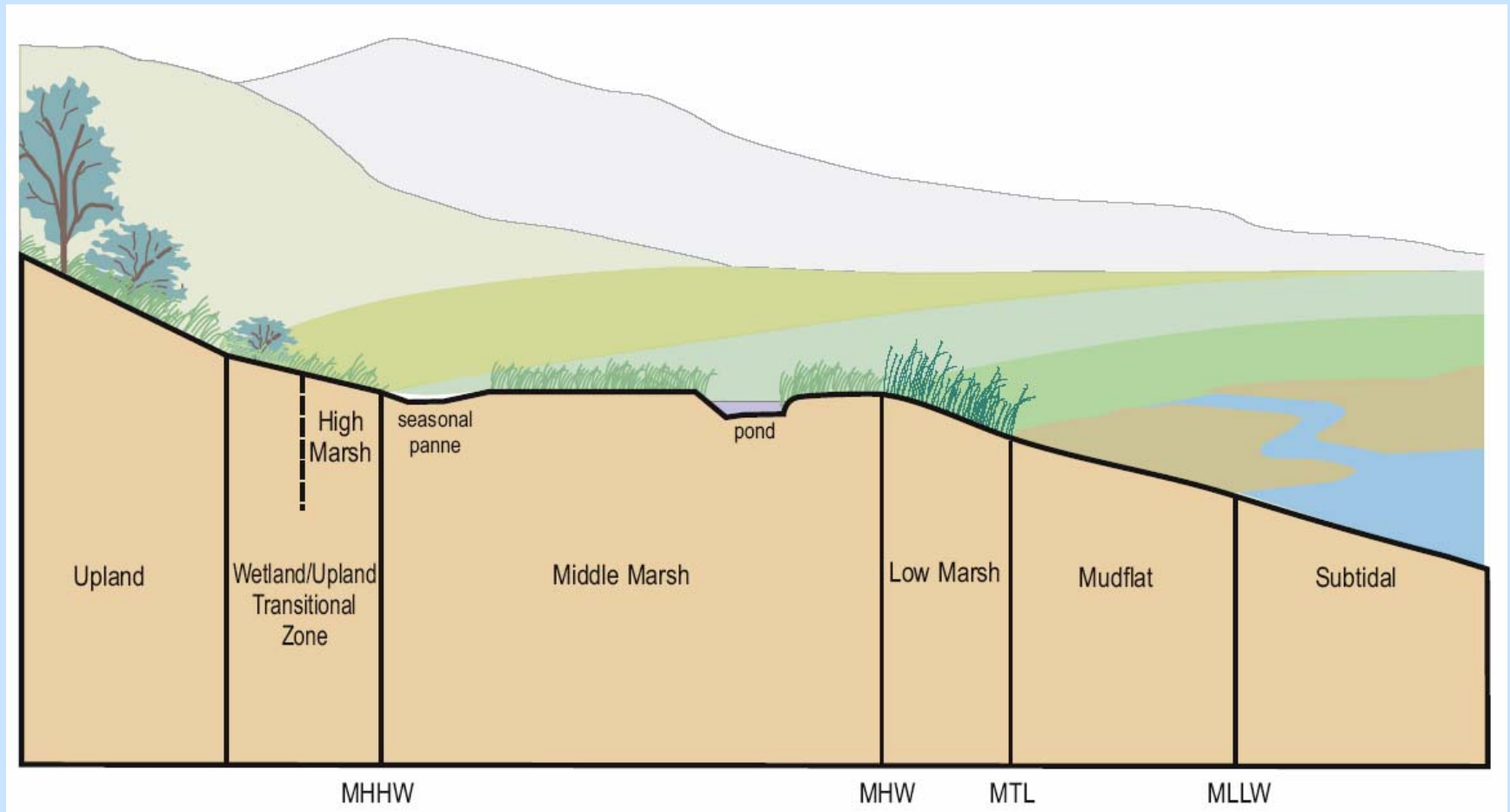
## Habitat Concept 2

## Habitat Concept Type

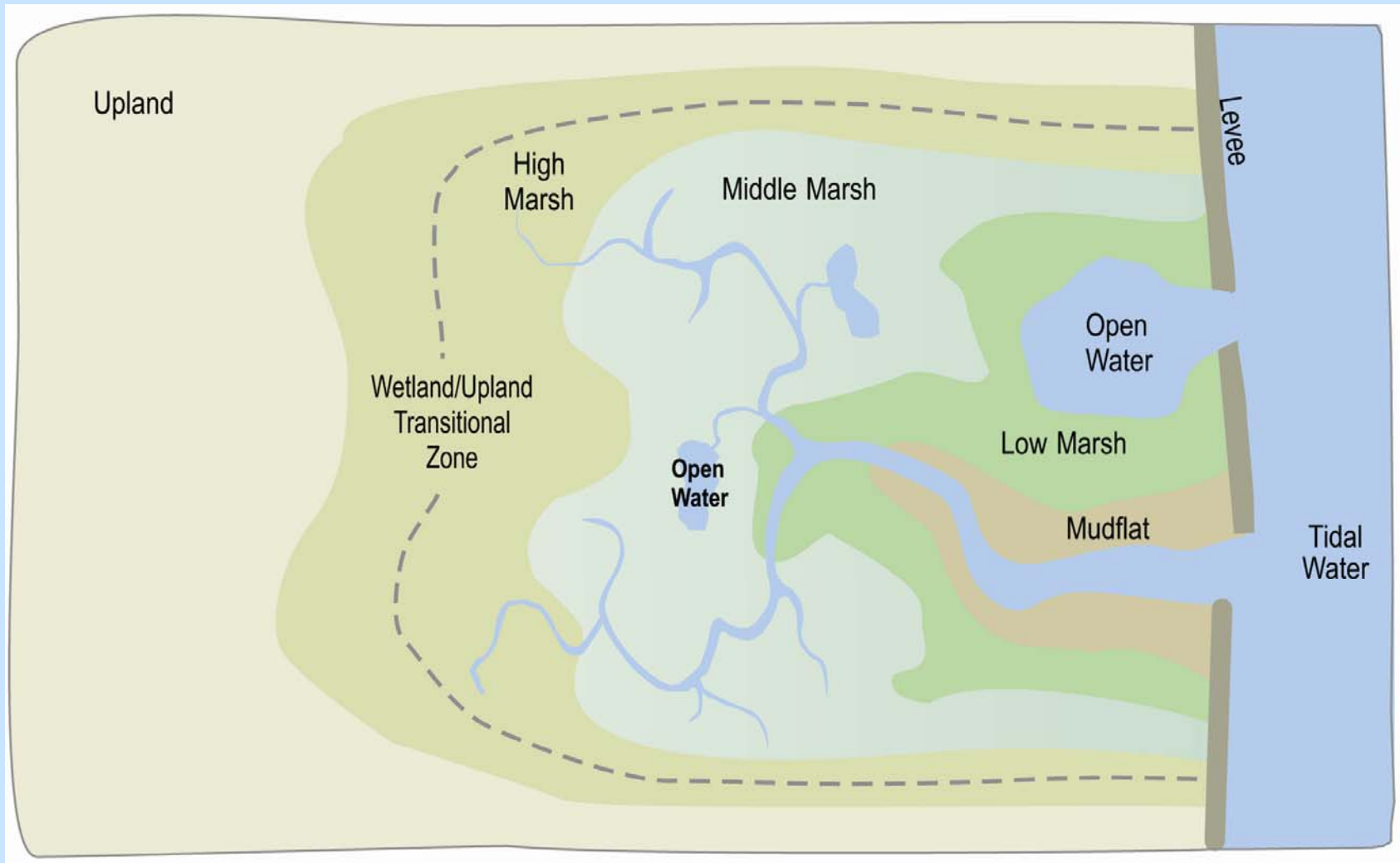
- |   |                                       |
|---|---------------------------------------|
|  | Dune Habitat                          |
|  | Enhance Existing Habitat              |
|  | Freshwater Marsh and Riparian Habitat |
|  | Muted Tidal Wetland                   |
|  | Seasonal Wetland                      |
|  | Tidal Wetland                         |
|  | Treatment Wetland                     |
|  | Tidal Connection                      |



# Cross-section: Estuarine Ecosystem Structure



# Plan View: Estuarine Ecosystem Structure



# Habitat Concept 3

## Habitat Concept 3

### Habitat Concept Type

-  Dune Habitat
-  Enhance Existing Habitat
-  Freshwater Marsh and Riparian Habitat
-  Muted Tidal Wetland
-  Seasonal Wetland
-  Tidal Wetland
-  Treatment Wetland
-  Tidal Connection
-  Tidal Connection Zone



0 0.125 0.25 Miles






Habitat concepts created by Philip Williams and Associates (PWA) and EDAW, October 2005.

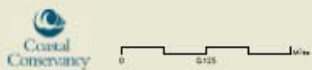
Map created by Greensite Network and EDAW, November 2005.

# Habitat Concept 4

## Habitat Concept 4

### Habitat Concept Type

-  Dune Habitat
-  Tidal Wetland
-  Treatment Wetland
-  Tidal Connection
-  Tidal Connection Zone
-  New Lease



Habitat concepts created by Philip Williams and Associates (PWA) and EDAW, October 2008.

Map created by GreenInfo Network and EDAW, November 2008.



# Hydrologic Options

## Hydrologic Options

- Existing Tidal Connection
- Potential Tidal Connection
- Freshwater
- Potential Siphon Connection
- Existing Major Roadway



# Project Phasing

- Adaptive Management (“learn as you go”)
- Funding
- Additional data
- Future understanding of key processes (SLR, WQ)
- 4 Habitat Concepts could form a basis for phasing
- Some options:
  - Early Action elements
  - Phase 1 project (5 years?)
  - 50% completion (when? 10 years?)
  - 100% vision (when? 10-50 years)

# Aerial Photo of Ballona

